DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 66, 67 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for controlling, does not reasonably provide enablement for preventing. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to use the invention commensurate in scope with these claims.

The nature of the invention:

The invention is directed to an aqueous solution for preventing and controlling fungicidal and bacterial diseases in plant with the combination of phosphates and chelates.

The state of the prior art and the predictability or lack thereof in the art:

The prior art of record does not appear to show that the same prevents said diseases. As such, it appears that predictability in the art is low.

The amount of direction or guidance present and the presence or absence of working examples:

The Specification does not appear to give direction as to how the aqueous solution would be used to prevent said diseases and there are no working examples which show that said solution is effective in preventing said diseases.

The breadth of the claims and the quantity of experimentation needed:

The breadth of the claim is broad as prevention means that the plant will never again have the fungal or bacterial disease. Further, one of ordinary skill in the art would be required to do undue experimentation in order to use the invention commensurate in scope with the claims, i.e. in determining how to apply the solution to prevent said diseases and determining which diseases are susceptible to prevention.

The Examiner has duly considered the Applicant's arguments but deems them unpersuasive.

The Applicant presents no evidence that the claimed compositions can prevent the diseases to the full extent of the scope of the claims. The arguments of counsel alone cannot take the place of evidence. See *In re Budnick*, 190 USPQ 422 (CCPA 1976); *In re Schulze*, 145 USPQ 716 (CCPA 1965); In re Cole, 326 F.2d 769, 140 USPQ 230 (CCPA 1964). Arguments with respect to the issue of enablement should be supported by evidence provided by affidavit. See e.g. *In re Knowlton*, 178 USPQ 486 (CCPA 1973); *In re Wiseman*, 596 F.2d 1019, 201 USPQ 658 (CCPA 1979).

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington,* 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 55-102 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-8 of U.S. Patent No. 5,736,164, Claims 1-5 of U.S. Patent No. 5,800,837 or Claims 1-49 of U.S. Patent No. 6,338,860, each in view of Ducret et al. (U.S. Pat. 4,139,616), Fenn et al. (1984), Reuveni et al. (Plant Pathology 1995), Scher (U.S. Pat. 4, 714,614) and Supa Crop.

U.S. Patent 5,736,164 claims a method of controlling fungal disease in plants comprising applying potassium phosphates and potassium phosphonates (Claims 1-8).

U.S. Patent 5,800,837 discloses a fertilizer composition for stimulating growth in plants and method for stimulating growth in plants by applying the combination of a potassium phosphate and potassium phosphonates (Claims 1-5).

U.S. Patent 6,338,860 disclose compositions and methods of controlling *Phytophthora* fungal diseases with the combination of a potassium phosphate and potassium phosphonates (Claims 1-49).

Ducret et al. (U.S. Pat. 4,139,616) teach that phosphonate salts are effective fungicides (Column 1).

Fenn et al. (1984) teaches at phosphonate and phosphorous acid are effective against Phytophthora (See entire document).

Reuveni et al. (Plant Pathology 1995) teaches the potassium phosphates, optionally with KOH, are effective fungicides and fertilizers (See entire document).

Scher teaches FeEDDHA is effective against Fusarium wilt (Column 9, lines 40-61).

Supa Crop (1990) teaches that a composition containing phosphates, phosphate and chelated metals of iron, manganese, zinc, copper provides protection against Phytophthora and Downy Mildew.

The difference between the claims of the U.S. Pat. Nos. 5,736,164, 5,800,837 and 6,338,860 and the claimed invention is that the said patent does not claim the combination of heavy metal chelate and phosphonate and phosphate. However, the prior art amply suggests the same as it is known in the art to combine phosphonates and phosphates, and to combine the same with metal chelates.. As such it would have been well within the skill of and one of ordinary skill in the art would have been motivated to modify the claims said patent with the expectation that the combination would exhibit increased effectiveness.

Examiner has duly considered Applicant's arguments but deems them unpersuasive.

The Supreme Court in *KSR International Co. v. Teleflex Inc.*, held the following:

(1) the obviousness analysis need not seek out precise teachings directed to the subject matter of the challenged claim and can take into account the inferences and creative steps that one of ordinary skill in the art would employ;

(2) the obviousness analysis cannot be confined by a formalistic conception of the words teaching, suggestion and motivation, or by overemphasis on the importance of published articles and the explicit content of issued patents;

(3) it is error to look only the problem the patentee was trying to solve-any need or problem known in the filed of endeavor at the time of invention and addressed by the prior art can provide a reason for combining the elements in the manner claimed;

(4) it is error to assume that one of ordinary skill in the art in attempting to solve a problem will be led only to those elements of prior art designed to solve the same problem-common sense teaches that familiar items may have obvious uses beyond their primary purposes, and in many cases one of ordinary skill in the art will be able to fit the teachings of multiple patents together like pieces of a puzzle (one of ordinary skill in the art is not automaton);

(5) it is error to assume that a patent claim cannot be proved obvious merely by showing that the combination of elements was "obvious to try". *KSR International Co. v. Teleflex Inc.*, 82 USPQ2d 1385, 1396, 1397 (U.S. 2007).

In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.,* 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). Further, the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981).

The Applicant argues that Supa Crop ® reference does not constitute prior art and refers to several letters between Supa Crop ® and an Australian agency. However, if one of ordinary skill in the art after exercising reasonable diligence could not locate the reference, how did the Applicant obtain the reference? The Applicant indicates that the regulatory agency has since been abandoned but the Applicant provides no evidence of the same and has not provided

evidence that the agency had no successor. The Examiner directs the Applicant to history of the Department of Primary Industries obtained from its website. Further, a review of the letters indicates that the label and product was in use (See Letter dated November 1, 1991 indicating that Supa Stand-Phos ® has been in use and asking that the Supa Stand-Phos ® remain under its present form and registration). As such, contrary to the Applicant's arguments, there is insufficient evidence to conclude that the exact label was not available to the public.

The Applicant argues that Supa Stand-Phos only refers to EDTA as a metal chelator whereas the claims as amended recite EDDHA. However, Supa Stand-Phos ® does suggest that phosphate can be combined with chelated metals. That Applicant provides no evidence that EDDHA when used with these metals demonstrates less phytotoxicity than do other chelating agents, including EDTA, and that the same is unexpected. The arguments of counsel cannot take the place of evidence in the record. *In re Schulze*, 346 F.2d 600, 602, 145 USPQ 716, 718 (CCPA 1965); *In re Geisler*, 116 F.3d 1465, 43 USPQ2d 1362 (Fed. Cir. 1997) ("An assertion of what seems to follow from common experience is just attorney argument and not the kind of factual evidence that is required to rebut a prima facie case of obviousness.").

The Applicant acknowledges that it is possible to combine the teaching of multiple references in order to render obvious a claimed combination. However, contrary to the Applicant's arguments, as indicated above, motivation in the prior art to combine the elements disclosed in the art is not a requirement of a prima facie case of obviousness.

The Examiner has considered the Rebuttal of Robert Addair, however, the Examiner is not persuaded by the arguments therein. Pages 8-11 and 14-16 of the Rebuttal discuss the obviousness of the combination of phosphate and phosphonate, however, said discussion has no

relevance to the double patenting rejection as the claims of the applicant's related US Patents claim the combination of phosphate and phosphonates. The issue here not whether it would be obvious to combine phosphate and phosphonate, but whether it would be obvious to combine and/or modify the claims of said related US patents (which claim the combination of and/or use of combinations of phosphate and phosphonate) by adding chelated metals, specifically, EDDHA chelated metals.

The prior art disclose the use of phosphorous salts and chelated metals in the treatment of agricultural plants as indicated above. "It is prima facie obvious to combine two compositions each of which is taught by the prior art to be useful for the same purpose, in order to form a third composition to be used for the very same purpose.... [T]he idea of combining them flows logically from their having been individually taught in the prior art." *In re Kerkhoven*, 205 USPQ 1069, 1072 (CCPA 1980) (citations omitted) (Claims to a process of preparing a spray-dried detergent by mixing together two conventional spray-dried detergents were held to be prima facie obvious.). See also *In re Crockett*, 126 USPQ 186 (CCPA 1960) (Claims directed to a method and material for treating cast iron using a mixture comprising calcium carbide and magnesium oxide were held unpatentable over prior art disclosures that the aforementioned components individually promote the formation of a nodular structure in cast iron.); and *Ex parte Quadranti*, 25 USPQ2d 1071 (Bd. Pat. App. & Inter. 1992) (mixture of two known herbicides held prima facie obvious).

The Applicant argues that the art is replete with instances of incompatible materials that exhibit phytotoxicity when combined. However, the Applicant presents no evidence of the same and presents no evidence that one of ordinary skill in the art would expect that the combination

of EDDHA chelated metals and phosphonate/phosphate as claimed in the related US Patents would be phytotoxic. Obviousness does not require absolute predictability. See, e.g., *In re O 'Farrell*, 853 F.2d 894, 903, 7 USPQ2d 1673, 1681 (Fed. Cir. 1988). The Applicant provides no rule or case law which states that a combination has to be actually tested in order for a conclusion of obviousness to be made. In any case, none of the claims contain limitations with respect to phytotoxicity.

The prior art teaches the combination of phosphorus compounds and metal chelates and further teaches that each alone are effective in treating fungal infections in plants. Further, one of ordinary skill in the art would be motivated to combine both fertilizer and antimicrobial in a single formulation in terms of convenience over having to perform multiple applications. The Applicant has not provides evidence showing the criticality of the claimed amounts. See *In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 235(CCPA 1955).

Therefore, the claimed invention, as a whole, would have been an obvious modification of the claims of said patent to one of ordinary skill in the art at the time the invention was made, because every element of the invention has been collectively taught by the combined teachings of the references.

Claims 55-102 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1,2 of U.S. Patent No. 6,139,879 in view of Ducret et al. (U.S. Pat. 4,139,616), Fenn et al. (1984), Reuveni et al. (Plant Pathology 1995), Scher (U.S. Pat. 4, 714,614) and Supa Crop (1990).

U.S. 6,139,879 claims a method of controlling fungal disease in plants comprising applying heavy metal chelates (Claims 1,2).

Ducret et al. (U.S. Pat. 4,139,616) teach that phosphonate salts are effective fungicides (Column 1).

Fenn et al. (1984) teaches at phosphonate and phosphorous acid are effective against Phytophthora (See entire document).

Reuveni et al. (Plant Pathology 1995) teaches the potassium phosphates, optionally with KOH, are effective fungicides and fertilizers (See entire document).

Scher teaches FeEDDHA is effective against Fusarium wilt (Column 9, lines 40-61).

Supa Crop (1990) teaches that a composition containing phosphates, phosphate and chelated metals of iron, manganese, zinc, copper is provides protection against Phytophthora and Downy Mildew.

The difference between the claims of U.S. Pat. 6,139,879 and the claimed invention is that the said patent does not claim the combination of heavy metal chelate and phosphonate and phosphate. However, the prior art amply suggests the same as it is known in the art to combine phosphates, phosphates and metal chelates. As such it would have been well within the skill of and one of ordinary skill in the art would have been motivated to modify the claims said patent with the expectation that the combination would exhibit increased effectiveness.

Examiner has duly considered Applicant's arguments but deems them unpersuasive for the same reasons as above except for the discussion of the Rebuttal of Robert Addair.

Although the Rebuttal of Robert Addair does indicate that there is art that teaches away from the combination of phosphates and phosphonates, the art above discloses that the combination of phosphate and phosphonate are an effective fungicide. Further, a review of the Rebuttal of Robert Addair reveals that the conflicting art was based on in vitro data, whereas, in

vivo data showed that the combination of phosphonate and phosphate enhanced fungicidal activity (Pages 7-11). As such, notwithstanding the in vitro data, one of ordinary skill in the art would have been motivated to use the combination of phosphonate and phosphate for treating plants.

Therefore, the claimed invention, as a whole, would have been an obvious modification of the claims of said patent to one of ordinary skill in the art at the time the invention was made, because every element of the invention has been collectively taught by the combined teachings of the references.

Claim Rejections - 35 USC § 103

Examiner notes that the rejections herein are not intended to and do not apply to subject matter which was found to be allowable over the prior art in Patent Nos. 6,139,879, 6,338,860, 5,997,910, 5,800,837 and 5,736,164.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 55-102 are rejected under 35 U.S.C. 103(a) as being unpatentable over Horriere et al. (US Pat. 5,169,646) in view of Ducret et al. (U.S. Pat. 4,139,616), Fenn et al. (1984), Reuveni et al. (Plant Pathology 1995), Scher (U.S. Pat. 4, 714,614) and Supa Crop (1990).

Horriere et al. teaches that phosphonates in combination with other fungicides, such as maneb and mancozeb show increased effectiveness (Column 2).

Ducret et al. (U.S. Pat. 4,139,616), Fenn et al. (1984), Reuveni et al. (Plant Pathology 1995), Scher (U.S. Pat. 4, 714,614) and Supa Crop (1990) are cited herein for the same reasons as above and the are incorporated herein to avoid repetition.

The difference between the prior art and claimed invention is that the said prior art does not expressly disclose the combination of an EDDHA metal chelate, phosphonate/phosphite and phosphate. However, the prior art amply suggests the same as it is known in the art to combine phosphates, phosphates and metal chelates. As such it would have been well within the skill of and one of ordinary skill in the art would have been motivated to modify the claims said patent with the expectation that the combination would exhibit increased effectiveness.

Examiner has duly considered Applicant's arguments but deems them unpersuasive for the same reasons as above except for the discussion Rebuttal of Robert Addair in the double patenting rejection of over claims 1-8 of U.S. Patent No. 5,736,164, Claims 1-5 of U.S. Patent No. 5,800,837 or Claims 1-49 of U.S. Patent No. 6,338,860.

Although the Rebuttal of Robert Addair does indicate that there is art that teaches away from the combination of phosphates and phosphonates, the art above discloses that the combination of phosphate and phosphonate are an effective fungicide. Further, a review of the Rebuttal of Robert Addair reveals that the conflicting art was based on in vitro data, whereas, in vivo data showed that the combination of phosphonate and phosphate enhanced fungicidal activity (Pages 7-11). As such, notwithstanding the in vitro data, one of ordinary skill in the art would have been motivated to use the combination of phosphonate and phosphate for treating plants.

Horriere et al. is recited to show that one of ordinary skill in the art would combine phosphonates and other fungicides. As such, to that extent Horriere et al. is relevant to the rejection of the claimed invention. Since this is a rejection based on a combination of references, there is no requirement that Horriere et al. disclose the combination of phophonates, phosphates and metal chelates as claimed.

Therefore, the claimed invention, as a whole, would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made, because every element of the invention has been collectively taught by the combined teachings of the references.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

A facsimile center has been established in Technology Center 1600. The hours of operation are Monday through Friday, 8:45 AM to 4:45 PM. The telecopier number for accessing the facsimile machine is 571-273-8300.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Frank Choi whose telephone number is (571)272-0610. Examiner maintains a compressed schedule and may be reached Monday, Tuesday, Thursday, Friday, 6:00 am – 4:30 pm (EST).

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's Supervisor, Johann R. Richter, can be reached at (571)272-0646. Additionally, Technology Center 1600's Receptionist and Customer Service can be reached at (571) 272-1600.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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June 11, 2008

/Johann R. Richter/
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